

REMARKS

Claims 9, 10 and 15-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Asao et al. (JP '834; hereafter, "Asao"), and claims 1-8 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Asao. These rejections are respectfully traversed for the following reasons.

The Examiner has maintained the pending rejections over JP '834 based on the allegation that "any absolute magnitude value greater than "0" is inherently known to have presence of lead, harmful to the environment." The Examiner appears to believe that the "inherency" standard under § 102 can be satisfied simply if the prior art "probably" discloses the claimed feature. However, as repeatedly indicated to the Examiner, "inherency may not be established by probabilities or possibilities" as held in *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999), but rather the prior art **must necessarily** disclose the claimed feature. In the instant case, the alleged identification information of JP '834 having a magnitude greater than "0" can be indicating the presence of heavy metals ***other than lead*** such as Sn, Bi, Au, Ag, etc., **and the Examiner has not provided any evidence as to why this is not possible**. Again, the mere possibility that a magnitude greater than "0" can indicate content of a heavy metal other than lead is sufficient to overcome an "inherency" position.

Solely in order to expedite issuance of the present application, claims 1-5, 7, 9, 10 and 15-20 have been canceled without prejudice/disclaimer to the subject matter embodied thereby. Claim 6 has been rewritten into independent form, with the additional feature that the "identification information carrying information about the type and composition of the

solder.” Claim 8 similarly has been amended to define “identification information carrying information about the type and composition of the solder.”

Claims 6 and 8 are independent and each recite in pertinent part, “said identification information carrying information about the type and composition of the solder.” In contrast, the alleged bar code of Asao merely indicates the absolute amount of the heavy metal contained in the entire circuit board, and is completely silent as to the type and composition of the solder. In addition, with respect to claim 8, Asao further does not disclose or suggest that the *housing* carries the lead identification information. Rather, the bar code of Asao is attached on the surface of the printed board. Accordingly, the device of Asao requires the electrical appliance to first be disassembled before recognizing the bar code, and is therefore subject to the cost/delay required to do so; whereas the identification information of the present invention can be checked without the cost/delay associated with disassembling the electrical appliance in the middle of, for example, a recycling process.

Indeed, the international preliminary examination report corresponding to the present application acknowledges that Asao does not disclose or suggest the features now recited in claims 6 and 8, and concludes that such features in combination with the other elements satisfies the requirements for novelty and inventive step (copies of the IPER are enclosed herein for the Examiner’s reference).

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that "inherency may not be established by probabilities or possibilities", *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999))), in a single prior art reference, *Akzo N.V. v. U.S. Int’l Trade Commission*,

808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Asao does not anticipate claims 6 and 8, nor any claim dependent thereon.

It is noted that the Examiner alleges in the outstanding Office Action that "it would have been obvious ... to detail the soldered parts ... since it was known in the art that the bar code carries information about different level of lead" This allegation is based entirely on improper hindsight reasoning. The Examiner has offered no evidence from the prior art that discloses or suggests the aforementioned feature, and simply concludes such a feature is obvious based on the Examiner's own opinion. Indeed, only Applicants' specification discloses such a feature and the motivation for providing it within the particular *combination* recited in the claims.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (emphasis added) (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in the claims because the prior art fails the "all the claim limitations" standard required under § 103. Instead, the Examiner has apparently relied on Official Notice that it would have been obvious to detail the soldered parts, etc.. Pursuant to MPEP § 2144.03(C), Applicant hereby challenges the Examiner's apparent allegation that it would have been obvious to detail the soldered parts, and respectfully requests documentary evidence of his findings if the pending rejection is maintained.

The Examiner is further directed to MPEP § 2143.03 under the subsection entitled "Fact that References Can Be Combined or Modified is Not Sufficient to Establish *Prima Facie* Obviousness", which sets forth a further requisite for an obviousness rejection:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (*In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990)).

In the instant case, even assuming *arguendo* that Asao can be modified to reach the claimed invention, it is submitted that the "mere fact that [Asao] can be modified ... does not render the resultant modification obvious" because nowhere does the prior art "suggest the desirability of the modification" as set forth by the Examiner.

In addition, even assuming *arguendo* that the Examiner finds prior art disclosing the aforementioned feature *individually*, there still must be *objective* evidence from the prior art that would suggest the modification of Asao. The Examiner is directed to MPEP § 2143.01 under the subsection entitled "Fact that the Claimed Invention is Within the Capabilities of One of Ordinary Skill in the Art is Not Sufficient by Itself to Establish *Prima Facie* Obviousness", which sets forth the applicable standard:

A statement that modifications of the prior art to meet the claimed invention would have been [obvious] because the references relied upon teach that all aspects of the claimed invention were *individually* known in the art is *not* sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. (citing *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)).

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as the

independent claims are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Withdrawn independent claims 11 and 12 have been amended in a manner similar to claim 8 and are submitted to be patentable for at least the reasons discussed above regarding claim 8. The Examiner is respectfully requested to reconsider the withdrawal of claims 11-13 in view of the amendments thereto, which are submitted to place claims 11-13 in condition for allowance for at least reasons similar to those discussed above with respect to claim 8.

CONCLUSION

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference P21336-PO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP00/00058	International filing date (day/month/year) 07/01/2000	Priority date (day/month/year) 11/01/1999	
International Patent Classification (IPC) or national classification and IPC H05K1/02			
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 22/05/2000	Date of completion of this report 19.04.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Molenaar, E Telephone No. +49 89 2399 2159 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/JP00/00058

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-4,8-27 as originally filed

5-7,7¹/₄ as received on 26/03/2001 with letter of 23/03/2001

Claims, No.:

6-8,11-14 as received on 26/03/2001 with letter of 23/03/2001

Drawings, sheets:

1/13-13/13 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

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- ☐ the description, pages:
☒ the claims, Nos.: 1 - 5, 9 - 10
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	6 - 8, 11 - 14
	No:	Claims	
Inventive step (IS)	Yes:	Claims	6 - 8, 11 - 14
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	6 - 8, 11 - 14
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

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Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The invention relates to an article having a circuit with parts as defined in claim 6; to an electrical appliance as defined in claim 8 comprising such an article; and to a recycling method of wastes as defined in claims 11, 12 and 13.

Reference is made to the following documents:

D1: EP-A-0 831 683;

D2: PATENT ABSTRACTS OF JAPAN vol. 1996, no. 4, (30.04.96)
& JP 07 326834 A;

D3: FR-A-2 724 529.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 6, and shows (the references in parentheses applying to this document):
an article having a circuit with parts (12) which are soldered by a lead-free solder (18).

The subject-matter of claim 6 therefore differs from this known article in that the article further has identification information which indicates presence or absence of lead in said article, said identification information carrying information about the composition of the solder to enable identification of the type of solder.

The technical problem to be solved by the present invention may therefore be regarded as the article giving information regarding

- not just the amount of lead in said article,
- but, since the solder is already a lead free solder, of the type of such lead-free solder, i.e. the amount of other metals present.

The solution to this problem proposed in claim 6 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Document D2 shows an article (printed board 1) having a circuit with parts (a mounting component) which are soldered, and identification information (bar code 2) indicating

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the amount of lead as heavy metal in said article (the amount of lead is shown by the first digit). The bar code in D2 does not give information about the type of solder or the amounts of other metals in said solder.

The subject-matter of independent claim 8 further differs from the article known from D1 in that a housing accommodating the article is defined, said housing carrying the identification information.

Document D2 discloses a recycling method of wastes containing an article having a circuit soldered with parts and identification information indicating presence or absence of lead in said article comprising the step of identifying wastes of lead free articles from those of various articles having a circuit soldered with parts based on said information.

The subject-matter of claim 11 differs from the method known from D2 in that an electrical appliance comprising a housing accommodating the article is defined, said housing carrying the same identification information as defined in claim 6. As argued above, these features impart inventiveness to the subject-matter of claim 11.

The subject-matter of claim 12 further differs from the method known from D2 in that after discriminating an article having lead free parts from an article having lead containing parts, each of the discriminated articles is explicitly treated to separate materials constituting the article, the reusable valuables are recycled and the rest is shredded and buried or treated at its own type of dumping ground.

Document D2 only mentions these steps in the introductory part (PURPOSE) of the abstract, but document D3 discloses these steps more specifically (page 5, lines 13-15; page 6, lines 17-18; page 7, lines 3-5 and page 7, line 17 - page 8, line 11). However, both documents are silent about the feature of said housing carrying the identification information as defined in claim 6, enabling identification of the type of solder, so that the subject-matter of claim 12 does involve an inventive step too.

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For the same reasons as stated above with regard to claim 12, does the subject-matter of claim 13 also involve an inventive step.

Claims 7 and 14 are dependent on claims 6 and 8, respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1, D2 and D3 is not mentioned in the description, nor are these documents identified therein. A document reflecting the prior art described on pages 1 - 4 is not identified in the description (Rule 5.1(a)(ii) PCT).